

BURBERRY ANNUAL PROGRESS REVIEW

Burberry has an active and on-going programme dedicated to reducing its environmental impact, working in collaboration with its supply chain and non-government organisations (NGOs). This includes a commitment to eliminate from its supply chain the release of chemicals that can have an environmental impact. The ambitions of this project go above and beyond legally required international environmental and safety standards.

To ensure that Burberry is appropriately positioned to deliver on its commitment, dedicated programmes have been put in place to improve the traceability of raw materials. This requires Burberry to engage frequently across its supply chain in order to familiarise all supply chain partners with its current and future expected standards. Additionally, Burberry is rolling out a programme to train its extended supply chain on chemical use and remains open to joint training initiatives with equally committed brands.

In this report, Burberry will outline progress made on its commitment to eliminate from its supply chain the use of chemicals which may have an environmental impact.

This report will cover the following areas:

- Closing and slowing the loop
- Policies
- Status of elimination
- Hazard assessment of Perfluorinated Compounds
- Timeline
- Brand elimination road map
- Publication and evolution of the Manufacturing Restricted Substances List
- Manufacturing Restricted Substances List guidance and capacity building for supply chain partners
- Guidance for supply chain partners on the clean factory approach
- Update on implementation
- Update on monitoring
- Testing methods
- Quality control
- Effluent testing
- Effluent test trend analysis by country
- Transparency
- Conclusion

CLOSING AND SLOWING THE LOOP

Burberry is a global luxury brand and is committed to the creation of authentic quality products and continuous innovation in design and sustainable manufacturing. This includes investing in quality products that customers cherish for many years as well as quality processes. More productive and efficient ways of working are a priority across the organisation, together with ensuring a culture of waste elimination and responsible manufacturing.

Key investments made in product engineering and sustainable manufacturing continue to drive greater end to end control of the Burberry supply chain, embedding sustainable thinking into design and manufacturing, as well as enhancing durability. Burberry is an active member of the Sustainable Apparel Coalition (SAC) and is involved in the evolution of the Design and Development Module. This work stream strives to develop Material Sustainability Index scores for raw materials to help designers consider the life cycle impact of a product during its conception. At the other end of the spectrum, once a product is produced and sold, Burberry offers a range of repair services for key product categories to optimise the useful life of its products.

Burberry continues investing in sustainability across the supply chain, evolving its sourcing model to reflect a transparent and collaborative approach, and positioning Burberry as a recognised global leader in the industry. Burberry owns two factories, both based in Yorkshire, where Burberry weaves fabric and produces all its Heritage trench coats. Together these factories employ more than 800 people. Burberry has been on a journey to embed LEAN disciplines here, delivering 15% productivity improvements and reducing waste. In November 2015, Burberry announced plans to develop a new state-of-the-art manufacturing and weaving facility in Leeds that will support 1000 jobs and represent a £50 million investment. The new facility will offer more sustainable and efficient ways of manufacturing and the potential to develop and produce other products on site, supporting UK manufacturing and craftsmanship.

Recognising the role of waste in resource depletion and climate change, Burberry aims to reduce waste and increase its recycling in all sourcing locations globally and has developed partnerships to recycle damaged garments into insulation materials and use defected textile waste from our internal manufacturing sites in the home furnishings industry in the UK. Burberry is also partnering to recycle pre-consumer textile waste from over 150 key Italian supply chain partners into new yarns. This reduces the demand for virgin yarns, reducing resource depletion and the environmental impacts associated with raw material production, whilst supporting the development of a closed-loop system for fabric in Italy. For several years now, Burberry has utilised recycled polyester linings in key ranges and is actively researching new qualities of recycled materials to utilise in products.

Burberry recently announced that from September 2016, it will replace the current four show calendar with only two shows as well as its plan to unify Burberry's Prorsum, London and Brit collections under a new single Burberry label. In addition, the shows in February and September will feature womenswear and menswear collections together.

Burberry has long established and trustful relationships with many of its supply chain partners, some of which have lasted for over 100 years, and Burberry continues to invest in these relationships for the future.

POLICIES

Burberry has a long-standing programme in place dedicated to the management of its supply chain and the regular engagement with its supply chain partners. Recognising the importance of working with its business partners and key stakeholders in its efforts to reduce the use of chemicals in manufacturing, Burberry has evolved its policies and partner contracts to reflect this.

A cross functional group of Burberry teams worked together to review Burberry's partner contracts in order to ensure that they reflect Burberry's environmental and social commitments, as well as Burberry's ways of working. Following a comprehensive ten month review process incorporating the input from key NGOs and other stakeholders, Burberry reissued its Global Environmental Policy.

In June 2014 Burberry revised the contract wording used with supply chain partners to reference its Manufacturing Restricted Substances List (MRSL) and Product Restricted Substances List (PRSL) using a live web link in order to allow for regular updates.

The contract wording notes that the '*materials used in any production and/or manufacturing process in relation to any Burberry Samples, Burberry Goods, or Non-IP Raw Materials and/or any materials incorporated in any Burberry Samples, Burberry Goods, or Non-IP Raw Materials, which you supply to any Purchasing Party do not and shall not contain any of the materials listed at <http://www.burberryplc.com/documents/action-plan/burberry-restricted-substances-list.pdf> or any other material from time to time notified by Burberry to you as being prohibited*'.

These new terms and conditions were issued to existing and new Burberry partners in June 2014.

STATUS OF ELIMINATION

Burberry has enforced the ban of sixteen chemical groups with priority given to: Alkylphenols/Alkylphenol Ethoxylates (APs/APEOs), Phthalates, Chlorophenols, AZO Dyes, Perfluorinated Compounds (PFCs), and Short-Chain Chlorinated Paraffins (SCCP). The ban of the whole group of PFCs is divided into two steps consistent with Burberry's commitment. Burberry successfully transitioned from using long chained PFCs to short chained PFCs by January 2015.

Burberry is on target to transition from short chained PFCs to PFC free water repellent finishing by June 2016. The majority of water repellent materials have been redeveloped and approved for bulk production with PFC free finishing, and by June 2016 raw material production will be PFC free.

In order to minimise the chemical and environmental footprint from unused stock that may have been finished with PFC based chemistry, unused stock will be utilised.

All groups of substances that are currently banned are noted on Burberry's publically available MRSL:

http://www.burberryplc.com/documents/action-plan/burberry_manufacturing_restricted_substances_list_2016.pdf

An example case study of elimination is included in the Appendix. This case study is pending approval from SUBSPORT and is likely to be uploaded on the SUBSPORT platform in early June 2016.

Burberry posted a long chain PFC substitution case study on SUBSPORT in April 2014 as well as posting the link on its public website: <http://www.subsport.eu/case-stories/403-en>

HAZARD ASSESSMENT OF PFCS

The Precautionary Principle is the idea that steps should be taken to avoid any risk if the consequences of an action are uncertain and potentially dangerous. This Principle has been adopted by Burberry, and requires its supply chain partners to focus on the elimination of substances that may have an impact on the environment rather than focussing on extensive hazard assessment of every single substance.

Based on current literature reviewing the impact of PFCs, Burberry believes that no additional evidence is required to enforce the ban of the whole group of PFCs, as stated in the MRSL and PRSL. This ban was published in January 2016 and will officially come into force in June 2016.

TIMELINE

Industry alignment on chemical restriction objectives and priorities is critical to drive the chemical industry to engage in research and deliver on the brands' demands for alternatives.

The second version of the Burberry MRSL endorses the Zero Discharge of Hazardous Chemical group's (ZDHC) MRSL which is setting the new industry standard and aligning the focus of all stakeholders. Burberry expands on the ZDHC MRSL in a few key areas where Burberry's timelines are shorter than those of the wider group.

A key aspect of Burberry's chemical work is engaging with stakeholders. Within the year the Company has actively engaged with eight testing houses, thirteen chemical companies as well as eight industry associations, including but not limited to Unione Industriale Pratese and Seri.Co.

These engagements are crucial in terms of encouraging wider industry engagement around Burberry's chemical elimination, as are conversations with its direct peers in the industry, who do not traditionally engage in the majority of the groups in which Burberry participates.

BRAND ELIMINATION ROADMAPS

Burberry aims to achieve its chemical elimination objectives in line with its public commitment. Fundamental to achieving this is to align the Company's roadmap with other leading initiatives, such as the ZDHC. As previously mentioned, Burberry expands on the ZDHC MRSL in a few key areas where Burberry's timelines are shorter than those of the wider group. The ZDHC prioritisation framework takes into account criteria such as hazard, volume and usage pattern when prioritising chemical substances to eliminate and phase out.

For the Hazard element, the GreenScreen® List Translator was used: <http://www.greenscreenchemicals.org/method/greenscreen-list-translator>

This tool is comprised of more than 450 lists from 36 primary authoritative screening sources.

The value of the ZDHC framework is clearly described at the following link:

<http://www.roadmaptozero.com/fileadmin/layout/media/downloads/en/FrameworkPrioritisationReportRev1.pdf>

PUBLICATION AND EVOLUTION OF THE MRSL

Since 2014 Burberry has made its MRSL publically available, most recently updated in January 2016. In addition to this, Burberry reviews and makes its PRSL publically available. Crucially, Burberry also includes live web links to both the MRSL and PRSL in its contract wording with supply chain partners in order to ensure that they have access to the most up to date information at all times. Burberry also sends every version of the MRSL and PRSL to all supply chain partners, as well as sharing it externally with associations and chemical suppliers.

Burberry's MRSL of individual substances is sorted by Chemical Abstracts Service (CAS) number and contains limits for formulations that ensure no intentional use. The MRSL allows the individual identification of all the unwanted substances by both name and CAS number. The new MRSL extends above the initial eleven priority groups and provides guidance information to simply identify where the substances can be found, the testing techniques that are suitable for the analytical identification, and the concentration limits that chemical manufacturers should be able to meet.

Detection limits are prescribed at the lowest limits available in the industry. The purity grade of commercially available chemical formulations does not require the sophisticated analytical techniques or extremely low detection limits typically employed in pharmaceutical grade chemicals.

Through an extensive formulation testing programme, Burberry has gathered a vast and valuable amount of data across various types of manufacturing wet processes. This data enables Burberry to have greater visibility of the chemical ingredients being utilised in the supply chain both in terms of intentional and unintentional use. Burberry will continue to utilise this information during its regular reviews of the MRSL in order to determine groups of substances that Burberry should target for elimination in the future.

Burberry's publically available MRSL can be found here:

http://www.burberryplc.com/documents/action-plan/burberry_manufacturing_restricted_substances_list_2016.pdf

MRSL GUIDANCE AND CAPACITY BUILDING FOR SUPPLY CHAIN PARTNERS

The introduction of the MRSL in the apparel industry is revolutionary and requires a vast amount of education in the supply chain. Burberry firmly believes that to ensure industry transformation both the communication and education around the MRSL must be done collaboratively.

In terms of guidance, the Burberry MRSL includes implementation guidelines that clearly set the expectation and provide practical guidance for supply chain partners on how to use and implement the MRSL, both internally and, crucially, upstream. For example, the guidelines include:

- Templates for securing commitment to the MRSL from upstream suppliers
- A chemical supplier statement of compliance
- A chemical inventory template
- A self-assessment questionnaire

Burberry is committed to upskill its supply chain partners to enable them to accurately interpret the MRSL, enabling them to manage their chemical inventory and usage. Burberry has supported capacity building in three main ways.

Firstly, Burberry has hosted a series of full day workshops for supply chain partners in Hong Kong, Florence and London to introduce the concept of chemical management and the need to eliminate chemicals that may have an impact on the environment. As Burberry has rolled its chemical programme out to its supply chain, the content of these workshops has evolved to focus on chemical management training. At the most recent workshops with supply chain chemical managers, Burberry trained supply chain partners on the new MRSL and implementation guidelines. Burberry is proud to state that it has created a community of chemical managers where open dialogue between the supply chain partners is strongly encouraged and fostered.

Secondly, Burberry hosts webinars in small groups of up to five chemical managers in their native language, to stimulate open discussion, and share best practice on the challenges that partners are facing.

Thirdly, Burberry has worked with an online training provider to create customised training to its supply chain partners. The two training modules focus on chemical management and the Burberry MRSL implementation. Burberry currently has more than 70 chemical managers who have gone through this training already, and aim to increase this number in the coming months.

GUIDANCE FOR SUPPLY CHAIN PARTNERS ON THE CLEAN FACTORY APPROACH

A clean factory approach promotes a holistic view of chemical management that encompasses all the processing in a factory, rather than focusing on chemicals used in processing for a specific brand.

Significant efforts have been undertaken to encourage Burberry's supply chain partners to adopt a clean factory approach.

Specifically six key activities have been developed to support this strategy:

1. Burberry performs tests on the chemical inventory at key supply chain partners' facilities (not limited to Burberry production) to identify and replace formulations containing substances which may have an impact on the environment
2. Effluent testing, and crucially the analysis of test results with its supply chain partners, enables the partner to understand if they are using substances which may have an impact on the environment in their facility as a whole (not limited to Burberry production)
3. As part of the MRSL implementation, Burberry requires its supply chain partners to appoint a chemical manager who is responsible for establishing a set chemical management system for the facility as a whole, managing the processes and driving continuous improvement
4. Burberry regularly reminds its supply chain partners of the risk of contamination if the partners maintain the use of chemicals that Burberry has eliminated for other production in their facility. Burberry requires its supply chain partners to communicate their chemical requirements to their upstream supply chain. This serves to encourage more facilities and supply chain partners to meet the required environmental standards beyond Burberry production
5. Burberry proactively works with industry associations, the chemical industry and crucially its own industry peers in order to encourage adoption of the same high standards of chemical management

Burberry has seen an increased uptake of a clean factory approach in its supply chain partners. The top performing partners are invited to share their experience and learnings at Burberry's regular supply chain partner meetings to demonstrate the benefits of taking this approach.

UPDATE ON IMPLEMENTATION

Burberry believes that the control of input chemistry is more effective to reduce the use of chemicals that may have an environmental impact. By preventing chemicals that may have an environmental impact being used in production through education and validating chemical formulations, Burberry can control the presence of chemicals at the end of a product's journey.

Burberry has developed an Action Plan to support its supply chain partners in effectively implementing the MRSL, in-house and upstream.

The Action Plan is divided into five sections:

1. Commitment – This is the basic commitment that all Burberry partners must make
2. Internal implementation – This includes the appointment of a chemical manager and the implementation of a chemical management system amongst other actions
3. Upstream implementation – Ensuring that the upstream suppliers have appointed a chemical manager to be responsible for the MRSL requirements
4. Achievements of chemical elimination
5. Documentation – Of all of the above

Burberry has created an accompanying Action Plan tool to set objectives and timelines to support supply chain partners in implementing these steps. This tool sets out clear expectations and direction for Burberry's supply chain partners to enable them to set realistic targets and focus their efforts. The tool also allows them to work with their own upstream supply chain in a similar manner. The majority of Burberry's supply chain partners are using this Action Plan tool.

Burberry has also piloted a Chemical Inventory Management tool in order to further enhance the management of the consumption and quality of chemical supplies. When launched, the Chemical Inventory Management tool aims to enable supply chain partners access to a global chemical inventory which will be updated based on the most recent formulation testing. The Chemical Inventory Management tool is now being further developed with learnings from the pilot.

Finally, Burberry provides supply chain partners with the best available information on formulation quality through testing to enable them to make well informed decisions on preferred processing chemicals. In the future, these results will be shared throughout the supply chain, enabling each partner to benefit from the testing ability of other supply chain partners. Burberry wants to influence the purchasing decisions of its supply chain partners to ensure the highest chemical standards are met, to promote a clean factory approach and usage of cleaner chemistry

UPDATE ON MONITORING

Burberry encourages its partners to use the self-assessment questionnaire provided in the MRSL implementation guidelines to track internal and upstream suppliers' progress and help them to determine where to focus their efforts.

Burberry has also developed a Global Partner Progress tool that tracks 21 key performance indicators (KPIs). All key supply chain partners and their upstream suppliers can access and use this tool.

The Global Partner Progress tool assigns a numeric score to each KPI and gives a final overall score. This enables Burberry to generate comparable scores, benchmark supply chain partner progress and manage performance.

For some KPIs, such as Testing of Incoming Chemicals, supply chain partners are performing at different paces. The supply chain partners who were involved in the chemical formulation screening pilot have accelerated their progress in this space compared to others.

Burberry also includes Quality Control test ratings in this tool as a KPI. Regular tests are performed by external testing houses, checking for priority chemicals. The result gives Burberry an indication of how well the partner has managed input chemicals.

TESTING METHODS

The MRSL and Research List are the result of a prioritisation framework which was developed with input from the chemical industry and other expert sources. As part of Burberry's quality control and continuous improvement processes, both the MRSL and the Research List are challenged regularly to validate content and identify areas for improvements.

The limitations of current Material Safety Data Sheets (MSDS) do not allow for effective identification of unwanted substances through document screening of chemical inventories. In order to manage this challenge Burberry has piloted a formulation screening methodology with key partners. This involves sampling the entire chemical inventory, not just formulations used for Burberry production, and screening the formulations for a considerable number of analytes.

This analytical screening method seeks the presence of 430 substances that are potentially used in the apparel sector. It includes on site sampling of an aliquot of each formulation to ensure proper homogenization prior to analysis. All samples are analysed by two complimentary Gas Chromatography-Mass Spectrometry (GC-MS) methods, headspace analysis and acetone extraction. For headspace analysis, an aliquot of the sample is heated at 120°C for 25 minutes in a sealed vial and the resulting steam is injected into the Gas Chromatography (GC). A second aliquot of the sample is extracted in acetone by ultra-sonication for 10 minutes at 40°C, filtered and is then injected into the instrument.

Each formulation is rated with a simple colour coding system that rates the toxicological performance of the formulation, and the urgency with which substitutes must be identified. Burberry studies the results with its partners and works with the chemical industry to find MRSL compliant and cleaner alternatives.

During the pilot phase 850 formulations were tested for the 430 analytes. Below is a summary of the most frequently detected substances included in Burberry's MRSL.

SUBSTANCE NAME	CAS NUMBER
Xylene (m, o, p-Xylene)	Multiple
Naphthalene	91-20-3
p-Chlorocresol	59-50-7
Benzene	71-43-2
Dichlorobenzene (isomers: 1,2-/1,3-/1,4-)	Multiple
Ethylene glycol monoethyl ether (EGEE)	110-80-5
(Perfluorohexyl)ethylene	25291-17-2
6:2 FTOH	647-42-7

Table 1: Most frequently detected substances in MRSL

Unwanted substances are often found to be present in formulations as contaminants rather than as intentional ingredients which confirmed that reliance on a risk based approach is not a robust strategy.

The testing also identified a number of substances of concern that are frequently present but not included in the current MRSL. Burberry is now reviewing whether these chemicals should either be added to the MRSL or Research List.

SUBSTANCE NAME	CAS NUMBER
Fumaric acid bis(2-ethylhexyl)ester	141-02-6
1-Methoxy-2-propanol	107-98-2
Ethylbenzene	100-41-4
Limonene	138-86-3
Butylacrylate	141-32-2
2-Ethylhexyl acrylate	103-11-7
Ethyl acrylate	140-88-5
Benzyl chloride	100-44-7

Table 2: Most frequently detected substances not in MRSL

Through this process, Burberry is able to alert other supply chain partners of problematic formulations to disseminate knowledge and avoid unnecessary testing.

Burberry plans to scale up the analytical screening methodology piloted with twelve facilities and will continue to support its partners in making well informed choices on chemical procurement and use.

In addition to screening the chemical input, Burberry challenges itself and its partners with a verification process that aims to identify the residues of unwanted chemicals on raw materials, finished product and untreated effluent through quality control testing.

QUALITY CONTROL

Testing houses are regularly appraised and challenged on formulation, product and effluent testing, and consistency and accuracy are monitored through correlation exercises conducted between testing houses.

Burberry performs quality control testing on finished product and raw materials for each collection which targets residues that indicate that restricted chemicals may have been used. This enables Burberry to review its partners' efforts in implementing the MRSL and controlling input chemistry.

Burberry shares the test results both internally and with supply chain partners. The results of these quality control tests encourage the partners to take responsibility for their upstream

supply chain, by ensuring they do not use chemicals that may have an environmental impact. Burberry encourages its supply chain partners to perform their own quality control testing too.

This testing programme may occasionally identify a supply chain partner who is not reaching Burberry's required standards. Where this happens, Burberry will work with the supply chain partner to understand and address the cause of the issue and ensure they take steps to meet Burberry's standards in the future. If a supply chain partner is unable to meet Burberry's standards after remedial efforts have been made, Burberry will review its relationship with the supply chain partner.

EFFLUENT TESTING

The majority of Burberry finished goods manufacturing is based in Europe, with Italy as the largest sourcing country. Close to 10% of Burberry finished product is made in the UK, including in Burberry's own factories.

Effluent testing data is published on the IPE Green Choice Alliance website, representing around 80% of raw material wet processing by volume. Facility level testing data is also posted on the Burberry plc website and updated information is posted on a regular basis: http://www.burberryplc.com/corporate_responsibility/burberry-commitment-on-chemical-management-in-manufacturing/burberry-action-plan-on-chemical-management-in-manufacturing.

Burberry analyses all effluent test results and shares key points with its supply chain partners in order to alert them to any actions needed. This analysis informed Burberry of the importance of regular effluent testing and enabled the Company to focus efforts on key supply chain partners where tests are conducted with increased frequency.

There is no industry standard for effluent testing and this causes confusion in the supply chain, as well as lack of direction for the testing houses. In response to this, Burberry is now an active participant of the Wastewater Quality Guidance Working Group aimed at setting a single, unified wastewater discharge quality expectation that goes beyond current regulatory compliance to help ensure that wastewater discharges do not adversely affect the environment or the surrounding communities.

Burberry regularly screens its Chinese supply chain partners on the IPE environmental violation record database and if Burberry finds that they are listed, Burberry offers support to them to remedy the situation.

EFFLUENT TEST TREND ANALYSIS BY COUNTRY

Burberry has implemented three rounds of effluent testing since 2014, investigating the presence of a selection of analytes in the raw wastewater of key wet processing facilities. The four chemical groups that are focused on for this analysis are: Phthalates, PFCs, APEOs/APs and Chlorinated Solvents.

COUNTRY	% QUANTITY
Taiwan	c.6
Italy	c.21
Turkey	c.13
China	c.32
South Korea	c.4
United Kingdom	c.4
TOTAL	c.80

Table 3: Quantity percentage covered by effluent testing by country

The countries listed in Table 3 above were prioritised for Burberry's effluent testing, but the programme also includes sites in Germany, Spain, Sri Lanka, Portugal, and Thailand.

The following trends could be observed:

- Reduction in number of sites with Phthalate detection in Italy
- Reduction in number of Phthalate analytes detected in Italy
- Reduction in number of PFC analytes detected in Italy
- Reduction in number of sites with APEO/APs detection in Taiwan
- Consistent non-detection of PFCs and Chlorinated Solvent analytes in Taiwan

TRANSPARENCY

Burberry ranks 24th among 94 global brands in the Corporate Information Transparency Index (CITI) (October 2015) developed by the China based Institute of Public and Environmental Affairs (IPE) and the U.S based Natural Resources Defense Council (NRDC).

Burberry annually completes the CDP Climate Change module and has increased its disclosure score consistently since 2009. In 2015, Burberry was awarded one of the sector leading scores for disclosure and performance of 97B. Burberry also completes the water and forest CDP modules and makes all disclosures public.

Burberry is also a member for the FTSE4Good Index which assesses companies' sustainability performance based solely on publically available information. Burberry was also included in the 2015 Dow Jones Sustainability Index (DJSI), listed under both DJSI World and DJSI Europe. The Index recognises Burberry as one of the top performing companies in the world for sustainability in the 'Consumer Durables & Apparel' sector, taking into account Burberry's public disclosure of sustainability information.

CONCLUSION

Burberry continues to engage both individually and in groups with stakeholders in its supply chain and the chemical industry in order to support the elimination of chemicals that may have an environmental impact. Burberry is proud to publicly report progress towards its

target as part of its wider commitment to the reduction of its environmental impacts and those of the industry as a whole.

APPENDIX

Burberry Chemical Substitution Case Study

Field Name	List	Explanations
Title		Phase-out of a brightening agent containing traces of NPEO
Abstract		Traces of NPEOs (below legal limits) were detected by Burberry in a brightening agent at one of their partners' processing unit in China. The brightening agent was replaced with APEO-free alternative in collaboration with the partner.
Sector	X	Manufacture of textiles, wearing apparel, leather and related products.
Function	X	Other functions (Brightening Agent)
Process	X	Other processes (Leather Processing)
Reliability phrases	X	Evidence of implementation: there is evidence that the solution was implemented and in use at time of publication
Substituted substance(s)		Brightening agent containing traces of NPEO
Alternative substance(s)		APEO-free formulation of liquid brightener
Other type of alternative		
Hazard assessment		The reported component of the alternative formulation is dipropylene glycol monomethyl ether (CAS Number 34590-94-8).
Case description		<p>Alkylphenol Ethoxylates (APEOs) are man-made chemicals used as surfactants, detergents and emulsifiers in Textile and Leather supply chains.</p> <p>Burberry is proactively working to eliminate the use of APEOs from manufacturing production processes across its global supply chain. APEOs have been included in the Burberry Product Restricted substances list (PRSL) and Manufacturing Restricted substances list (MRSL) documents.</p> <p>During quality control testing of the finished articles by Burberry, traces of Nonylphenol Ethoxylates (NPEOs) were detected. To investigate this, Burberry representatives visited the concerned partner facility and screened all the chemical Material Safety Data Sheets (MSDS) that were used in production processes for the presence of APEOs. Following this, Burberry substituted formulations containing NPEO with APEO-free alternatives.</p> <p>In particular, during the analytical screening of some formulations</p>

		<p>a brightening agent was found to contain 235 ppm of NPEOs. Although the amount of NPEOs detected was within regulatory limits, research for an alternative and cleaner brightening agent was activated.</p> <p>In collaboration with its partner facility, Burberry replaced the brightening agent with a suitable APEO-free alternative in the following manner:</p> <ul style="list-style-type: none"> • Initially, the chemical was removed from chemical recipes and chemical inventory • Burberry initiated discussions with chemical suppliers to find a suitable alternative chemical • The chemical supplier provided an alternative chemical formulation that provides the same functionality • The alternative was then tested in an independent laboratory for the presence of APEOs and the results were negative • The alternative was then implemented in the process and trials were taken to check its affect on quality • Performance of the alternative was validated and it was then implemented in bulk production <p>This substitution has demonstrated the same brightening effect with negligible change in process and product quality</p>
Case/substitution evaluation		<p>This case study is a report about a root cause investigation of the presence of APEOs.</p> <p>It shows that the root cause of this detection was a brightening agent. The brightening agent was replaced with an APEO-free formulation, after discussions with the chemical supplier.</p>
State of implementation	X	In Use
Date, when alternative was implemented and country		<p>Year: 2015</p> <p>Country: China</p>